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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,356	08/22/2003	Rahul Ganguli	0SBE-101519	8611

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EXAMINER	
RUGGLES, JOHN S	

ART UNIT	PAPER NUMBER
1756	

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/646,356	GANGULI ET AL.	
	Examiner	Art Unit	
	John Ruggles	1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *9/3/04, 4/16/04, 1/13/04, & 8/22/03*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-55* is/are pending in the application.

4a) Of the above claim(s) *25-55* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 August 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/3/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-24, drawn to a photomask assembly, classified in class 430, subclass 5.

II. Claims 25-55, drawn to various alternative methods for making a photomask assembly by making a porous frame and attaching it using surface bonding (e.g., including welding, etc.) to a photomask substrate and a pellicle (each as a separate preform), classified in class 156, various subclasses, class 65, various subclasses, and class 264, various subclasses.

Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the product photomask assembly as claimed in Group I can be made by another and materially different process than the various alternative methods claimed in Group II, such as a process that involves etching a porous frame and assembly to a photomask and a pellicle with the intervening porous frame held by temporary vacuum sealing (but without actually attaching the photomask, frame, and pellicle preforms together by using surface bonding, e.g. without including any welding, etc.).

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, and also because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

During a telephone conversation with James Brueggemann on 5/9/05 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-24. Affirmation of this election must be made by applicant in replying to this Office action. Claims 25-55 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "10" is described at paragraph [0003] of the specification in reference to Figure 1, but this reference number is not actually shown in Figure 1.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must

be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Figure 1 should be designated by a legend such as --Prior Art--, because only that which is old is illustrated (paragraph [0003] of the specification describes Figure 1 as being "conventional" and paragraph [0032] specifically refers to Figure 1 as being an elevational view of a "prior art" photomask assembly). See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: at paragraph [0039] line 9, the phrase "with a difference of ±20%", in reference to how closely the CTE of the frame matches that of the attached photomask substrate and/or the attached hard pellicle, should be

changed to --within a difference of ±20%--, in order to have the same meaning as recited by instant claim 8 lines 3-4.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In claim 1, the phrase "gas permeability to oxygen or nitrogen higher than about 10 **ml.mm/cm^2.min.MPa**" (emphasis added) does not have units which are comparable with those typically used for permeability of a porous article that specifies the volume per unit of time per cross-sectional area of the porous article, such as --cm^3/sec/cm^2-- (which can alternatively be expressed as --cm^3/(sec · cm^2)--). Applicants are required to provide a clarification of this matter or correlation with art-accepted terminology so that a proper comparison with the prior art can be made. Applicant should be careful not to introduce any new matter into the disclosure (i.e., matter which is not supported by the disclosure as originally filed). Claims 2-24 depend on claim 1.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 21-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In both of claims 21 and 22, the phrase "scavenge certain chemicals" is indefinite. It is unclear whether or not Applicants intended this indefinite phrase to mean --scavenge ***harmful*** chemicals-- (emphasis added) as described in the specification at paragraphs [0038 and 0042], which only specifically list the following harmful chemicals to be scavenged: "water vapor, oxygen, volatile hydrocarbons, ammonia, carbon dioxide, and sulfuric acid" (paragraph [0038] lines 5-7). For the purpose of this Office action and in order to advance the prosecution of this application, the phrase "scavenge certain chemicals" in both of claims 21 and 22 has been interpreted to mean --scavenge harmful chemicals--, as defined in the specification and listed above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ivaldi (US Patent 6,507,390) in view of Okada et al. (US Patent Application Publication 2003/0035222).

Ivaldi teaches an apparatus mask assembly having a porous metal frame 206 (made from sintered metal particles having pores sized from sub-micron to plural microns each, as controlled by sintering) between a reticle (mask) 104 and a glass pellicle 108 (col. 5 lines 5-31).

Ivaldi does not specifically teach the other limitations of instant claims 1-24.

Okada et al. teach a pellicle having a frame made of porous quartz glass (abstract, paragraph [0014]). The frame can be made of other similar material to have a coefficient of thermal expansion (CTE) within ±50% of that for the adjacent pellicle (if not quartz glass). The CTE for quartz glass is 1 x 10^{-7}/°C to 40 x 10^{-7}/°C [0046] (which converts to a CTE of 0.1 ppm/°C to 4 ppm/°C, reading on the instant range for CTE of 0.01-10 ppm/°C and ±50% and encompassing the instant narrower CTE ranges within ±20%).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have used a porous silica or quartz glass frame having a lower CTE as taught by Okada et al. in the photomask assembly taught by Ivaldi in order to obtain a better match of CTE between the frame and mask or pellicle. A porous silica or quartz glass frame would be expected to inherently possess the various properties recited by the instant claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Ruggles whose telephone number is 571-272-1390. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

John Ruggles
Examiner
Art Unit 1756

MARK F. HUFF
SUPERVISORY PATENT EXAMINER
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